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22 July 2019

Civil Engineering and Development Department Technical Circular No. 11/2019

Management of Construction and Demolition Materials

Introduction

This technical circular (TC) sets out the membership, terms of reference and working procedures of the Civil Engineering and Development Department (CEDD) Vetting Committee on Construction and Demolition (C&D) Materials Management (the Vetting Committee).

Effective Date

2. This TC takes immediate effect.

Effect on Existing Circular

3. This TC supersedes CEDD TC No. 03/2015 which is hereby cancelled. The revision is to update the membership of the Vetting Committee.

Membership and Terms of Reference

4. The membership and terms of reference of the Vetting Committee are given at **Appendix A**. The procedures and guidelines for preparation and submission of Construction and Demolition Materials Management Plan (C&DMMP) are set out in the following paragraphs.

Preparation of C&DMMP

5. Project office shall, so far as it is practicable, explore options in the planning and design of public works projects to reduce the generation of C&D materials at source, to reuse the C&D materials generated on site and to import recycled materials for use in the projects. In addition, every effort should be made to explore the feasibility of reusing surplus inert C&D materials in other projects managed by the project office. The flowchart given at **Appendix B** amplifies the guidelines for C&D materials management of projects at planning

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and design stages. The relevant Chief Engineer (CE)/Chief Geotechnical Engineer (CGE) in the project office should oversee the preparation of the C&DMMP and sign off the plan upon its completion and any subsequent revisions.

- 6. At the feasibility study or preliminary design stage, the project office shall draw up a C&DMMP for project that generates more than 50 000 m³ of C&D materials or requires more than 50 000 m³ of imported fill. Guidelines for preparation of C&DMMP are given at Appendix 4.9 of PAH Chapter 4.
- 7. For other projects that do not require the preparation of C&DMMP, the project office should adopt an appropriate system to control, monitor and record the generation of C&D materials or requirement of imported fill of each project. In drawing up such system, project office should establish a system similar to the C&DMMP in order to minimize C&D materials generation/requirement.

Submission of C&DMMP

- 8. Project office shall, as early as practicable and before the completion of the feasibility study or preliminary design stage, submit the C&DMMP to the Vetting Committee for endorsement. Four copies of the C&DMMP shall be signed off by the relevant CE/CGE for submission to the Secretary of the Vetting Committee. If necessary, the project officer concerned and/or the consultants (where appropriate) may be invited to attend the relevant meeting of the Vetting Committee to present and explain the details of the submitted C&DMMP.
- 9. The project office shall revise the C&DMMP for submission to the Vetting Committee for endorsement should there be any changes in the scope of works, design, site conditions or availability of more data/information in the detailed design stage or any other circumstances that have significant implications on the C&D materials management of the project.
- 10. Should there be any change to projects not requiring a C&DMMP which results in exceeding the threshold quantity of 50 000 m³, the relevant project office shall draw up a C&DMMP according to para. 6 and follow the submission and reporting procedures set out in paras. 8 & 9 of this Circular.

Term Contracts

11. Since it might not be practicable for public works executed under term contracts to estimate the quantities of C&D materials produced or fill material requiring import in the planning stage, they are exempted from drawing up C&DMMP. However, project office shall establish an appropriate vetting and monitoring system for term contracts to minimize the generation of C&D materials and maximize their reuse on site. As soon as it is apparent that the quantities of C&D materials produced or fill imported for a works site of a term contract would exceed 50 000 m³, the project office shall notify the Vetting Committee through submission of a C&DMMP.

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Other Requirements

- 12. For designated projects under the Environmental Impact Assessment (EIA) Ordinance, the project office should submit the C&DMMP together with the EIA report to Public Fill Committee (PFC) for approval. Reference could be made to Appendix 4.12 of PAH Chapter 4 on vetting process.
- 13. For non-designated projects which generate more than 300 000 m³ of C&D materials or require more than 300 000 m³ of imported fill, the C&DMMP should be submitted to PFC for in-principle approval prior to commencement of the detailed design.
- 14. Before making a submission to the PFC for consideration, the C&DMMP should be vetted and endorsed by the Vetting Committee.

Half-yearly Status Report and Quarterly Situation Report

- 15. For project that generates more than 50 000 m³ of C&D materials or requires more than 50 000 m³ of imported fill, the project office shall provide input on quantities of surplus C&D material/imported fill to the Secretary of the Vetting Committee covering the period from 1 January to 30 June and from 1 July to 31 December of each year respectively. The project office should provide the reasons for any significant variation (10% or 10 000 m³ whichever is greater) in the quantities of surplus C&D material/imported fill as compared with the baseline quantities given in the C&DMMP endorsed by the Vetting Committee.
- 16. In addition to the half-yearly status reports, the Vetting Committee is required to submit Quarterly Situation Report on Public Fill (in yearly forecast) of individual projects with public fill generation or demand equal to or greater than 300 000 m³ to PFC. Detailed explanations to PFC are required to be provided by the CE/CGE of the project for significant variation (≥ 100 000 tonnes) in any of the yearly quantity of the three-year period (the current year and the subsequent two years) of public fill generation and/or demand when compared with the last quarter's return, in accordance with DEVB TC(W) No. 9/2011. Endorsement for the detailed explanation should be sought from the appropriate authority given in DEVB TC(W) No. 9/2011.

Enquiries

17. Enquiries on this TC should be addressed to the Senior Engineer/Planning 2, CEDD Headquarters.

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References

- (a) Project Administration Handbook for Civil Engineering Works, Chapter 4, Paragraph 4.1.3 Construction and Demolition Materials
- (b) DEVB TC(W) No. 9/2011 Enhanced Control Measures for Management of Public Fill

(Signed)

(Ricky C K LAU)
Director of Civil Engineering and Development

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Membership and Terms of Reference of the Vetting Committee

Membership

Chairman: Assistant Director (Technical), Technical Branch

Members: Chief Engineer/Headquarters

Senior Engineer/Contract Adviser 1, Headquarters

Secretary: Senior Engineer/Planning 2, Headquarters

Terms of Reference

(a) to scrutinize and endorse Construction and Demolition Materials Management Plan (C&DMMP) and its revisions prepared by project proponent;

- (b) to consider available options to enable the reuse of inert C&D materials between projects of different offices;
- (c) to monitor the implementation of C&DMMP;
- (d) to submit a half-yearly status report on the implementation of C&DMMP in June and December to the Public Fill Committee (PFC) for consideration;
- (e) to review those projects exempted from the C&DMMP and to check if the actual quantities of materials generated exceed the estimates that justify the exemption; and if so, take appropriate control measures and highlight the situation in the half-yearly report for submission to the PFC; and
- (f) to issue guidance notes on important issues for proper preparation and submission of the C&DMMP and monitoring of its implementation.

Flowchart for C&D Materials Management in Feasibility Study or Preliminary Design Stages

MAIN PRINCPLES: Implement the "3R" model with priority in the descending order:

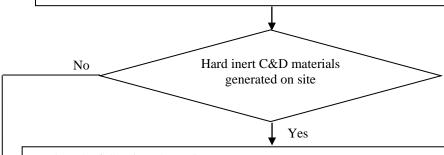
- **REDUCE** the generation of C&D materials at source:
- Maximize the **REUSE** of C&D materials; and
- Maximize the **RECYLCING** of C&D materials.

Apply the "3R" model to devise, review and explore design options. Based on scope of the public works project, project designer to determine:

- Soft inert C&D materials;
- Recyclable hard inert C&D materials (rock & crushed concrete);
- Non-recyclable hard inert C&D materials (brick & tile); and
- Non-inert C&D materials (C&D waste).

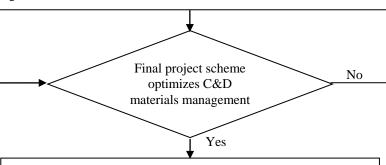
Based on the design options and the quantity of inert C&D materials generated on site, project designer to determine:

- Inert C&D materials including rock to be reused;
- Surplus rock to be delivered to quarries for processing;
- Inert C&D materials including rock and crushed concrete to be recycled;
- Non-recyclable hard and soft inert C&D materials to be disposed offsite; and
- Imported fill with its source identified (preferably from other projects of the Department or local sources).



Explore the following alternatives:

- Evaluate suitability of the hard C&D materials for recycling. Only rock and crushed concrete are classified as recyclable. For technical advice, consult Senior Engineer/Strategy 2, Fill Management Division;
- Explore opportunities for reuse of surplus rock in other projects; and
- Evaluate technical and economic viability to carry out selective demolition and sorting of C&D materials on site.



Draw up the C&D materials management strategy for the project. Utilize recycled aggregates and granular materials in the production of concrete, road sub-base, drainage bedding, filter, granular fill and stone column.